

COMPLETE SET OF PENDING CLAIMS

1 1.-29. (Cancelled)

1 30. (Currently Amended) A data storage method structure that stores a virtual
2 machine instruction sequence generated by compiler to be executed by a virtual machine,
3 the data ~~structure including~~ storage method comprising:

4 dividing the virtual machine instruction sequence into basic blocks each
5 corresponding to an instruction block;

6 transmitting the instruction block to the virtual machine;

7 storing the instruction block in the virtual machine; and

8 ~~a plurality of instruction blocks that constitute the virtual machine instruction~~
9 ~~sequence, the instruction blocks corresponding to separate basic blocks and formatted for~~
10 ~~transmission;~~

11 formatting the instruction blocks each including block to include:

12 an identifier area for storing an identifier that specifies a start position of
13 the instruction block;

14 a non-branch instruction area for storing non-branch instructions
15 belonging to ~~the a~~-corresponding basic block;

16 a branch instruction area for storing at least one branch instruction
17 belonging to the corresponding basic block; and

18 each branch instruction stored in the branch instruction area designating a
19 branch destination using an identifier stored in one of the identifier areas.

1 31.-38. (Cancelled)

1 39. (Currently Amended) A data storage method ~~structure~~ that stores a virtual
2 machine instruction sequence generated by compiler to be executed by a virtual machine,
3 the data storage method comprising structure including:

4 dividing the virtual machine instruction sequence into basic blocks each
5 corresponding to an instruction block;

6 transmitting the instruction block to the virtual machine;

7 storing the instruction block in the virtual machine;

8 ~~a plurality of instruction blocks that constitute the virtual machine instruction~~
9 ~~sequence, the instruction blocks corresponding to separate basic blocks and formatted for~~
10 ~~transmission;~~

11 formatting the instruction blocks each including block to include:

12 an identifier area for storing an identifier that specifies a start position of
13 the instruction block;

14 a non-branch instruction area for storing non-branch instructions
15 belonging to the corresponding basic block; and

16 a branch instruction area for storing at least one branch instructions
17 belonging to the corresponding basic block.

1 40. (Currently Amended) A data ~~structure~~ storage method of Claim 39,
2 wherein the identifier of the instruction block is an address related information in
3 the virtual machine instruction sequence.

1 41. (Currently Amended) A data ~~structure~~ storage method of Claim 40,
2 wherein the address related information is one of absolute address, relative
3 address, and offset address.

1 42. (Currently Amended) A data ~~structure~~ storage method of Claim 40,
2 wherein whether each virtual machine instruction is positioned at a start position
3 of the basic block is indicated by an address in the virtual machine instruction sequence
4 to which the virtual machine instruction is allocated;
5 a virtual machine instruction at the start position of the basic block being
6 allocated to a specific address in the virtual machine instruction sequence, and
7 a virtual machine instruction at other than the start position of the basic block
8 being allocated to an address other than the specific address.

1 43. (Currently Amended) A data ~~structure~~ storage method of Claim 40,
2 wherein virtual machine instructions of the virtual machine instruction sequence
3 each comprises:
4 an identifying unit for storing identification information which indicates if the
5 virtual machine instruction is positioned at a start position of the basic block; and
6 an operation specifying unit for specifying an operation to be executed by the
7 virtual machine.

1 44. (Currently Amended) A data ~~structure~~ storage method of Claim 40,
2 the basic blocks; and
3 identification tags, each designates an address related information of the virtual
4 machine instruction at a start position of the basic block; attachment of the tag indicating
5 if the virtual machine instruction corresponding to the identification tag is positioned at
6 the start position of the basic block.

1 45-51. (Cancelled)

1 52. (Currently Amended) A method of storing a virtual machine instruction
2 sequence generated by compiler to be executed by a virtual machine, the ~~improvement~~
3 method comprising:
4 dividing the virtual machine instruction sequence into basic blocks each
5 corresponding to an instruction block;
6 transmitting the instruction block to the virtual machine;
7 a storing step of storing the instruction block in the virtual machine;
8 ~~a plurality of instruction blocks that constitute the virtual machine instruction~~
9 ~~sequence, the instruction blocks corresponding to basic blocks;~~
10 formatting the instruction blocks each including block to include:
11 an identifier area for storing an identifier that specifies a start position of
12 the instruction block;
13 a non-branch instruction area for storing non-branch instructions
14 belonging to a the corresponding basic block;
15 a branch instruction area for storing at least one branch instruction
16 belonging to the corresponding basic block; and
17 each branch instruction stored in the branch instruction area designating a
18 branch destination using an identifier stored in one of the identifier areas,
19 wherein the division of the virtual machine instruction sequence into a
20 plurality of separately identifiable instruction blocks having a single branch
21 instruction area reduces the amount of branch destination processing that
22 would otherwise be necessary with a single instruction sequence with branch
23 instructions throughout.

1 53. (Currently Amended) A method of storing a virtual machine instruction
2 sequence generated by compiler to be executed by a virtual machine, the improvement
3 method comprising:

4 dividing the virtual machine instruction sequence into basic blocks each
5 corresponding to an instruction block;

6 transmitting the instruction block to the virtual machine;

7 storing the instruction block in the virtual machine;

8 ~~a plurality of instruction blocks that constitute the virtual machine instruction~~
9 ~~sequence, the instruction blocks corresponding to basic blocks;~~

10 ~~formatting the instruction blocks each including~~ block to include:

11 an identifier area for storing an identifier that specifies a start position of
12 the instruction block;

13 a non-branch instruction area for storing non-branch instructions
14 belonging to ~~a~~ the corresponding basic block;

15 a branch instruction area for storing at least one branch instruction
16 belonging to the corresponding basic block; and

17 each branch instruction stored in the branch instruction area designating a
18 branch destination using an identifier stored in one of the identifier areas,

19 wherein the virtual machine instruction sequence is transmitted after being
20 divided into the plurality of instruction blocks.